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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,086	03/11/2004	Atsushi Kitamura	119065	4354

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EXAMINER

REHM, ADAM C

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/797,086		KITAMURA, ATSUSHI	
	<b>Examiner</b>		<b>Art Unit</b>	
	Adam C. Rehm		2875	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 6-12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by AKOAKA (US 6,540,368), which discloses a spread illuminating apparatus (1) comprising:

- At least one light source (4);
- A light conductive plate which has at least one light source disposed toward one end surface thereof so as to introduce light emitted from the light source thereinto (2, Fig. 1), and which allows the light to exit out from a light exit surface thereof toward an object to be illuminated (Fig. 2);
- A light controlling means disposed between the at least one light source and the light conductive plate (3) and defining light entrance and exit surfaces and a refractive index profile formed in a direction parallel/vertical to the light exit surface of the plate (Figs. 1 and 2);
- Wherein the light control means is structured such that a refractive index variation appears repeatedly in the direction parallel to and the light exit surface of the light conductive plate/defines a smoothly curved envelope (3, Fig. 2; multiple light sources yield repeating profiles);

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- Wherein the light control means has a height equal to one end surface of the plate (Fig. 1);
- Wherein the light exit surface is parallel to a light entrance surface (Fig. 1);
- Wherein the light source is located at a center of the light entrance (Fig. 1).
- Wherein the light control means consists of a plurality of adhesively-stacked, transparent, rectangular solids (Fig. 3C).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over AKOAKA (US 6,540,368) and Applicant's admitted prior art. AKOAKA discloses the claimed invention including light control means structured such that a refractive index variation appears repeatedly in the direction parallel to and the light exit surface of the light conductive plate (3, Fig. 2), but does not specifically disclose a plurality of arrangements for manipulating a light index, i.e. a refractive index profile with an index that:

(1) Decreases with an increase in distance with respect to directions:

(A) Parallel and vertical per Claim 2;

(B) Vertical per Claims 3 and 5;

(C) Parallel per Claim 4; or

(2) Increases with an increase in distance with respect to directions:

(A) Parallel per Claim 3;

(B) Vertical per Claim 4.

3. However, Applicant's admitted prior art discloses the use of an LED/point light source (see Background generally). Notably, the refractive index profile of an LED is such that light refraction decreases with an increasing distance from a center point. As such, use of an LED with light controlling means would form profiles as claimed.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over AKOAKA (US 6,540,368). AKOAKA discloses the claimed invention including a light control means (3) and a light conductive plate (2), but does not specifically disclose the manner of attachment, i.e. a transparent adhesive. It is notoriously known in the art to attach multi-piece light guides with a transparent adhesive and it would have been obvious to one having ordinary skill in the art to select and utilize an appropriate adhesive for attaching such.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over AKOAKA (US 6,540,368) and Applicant's admitted prior art. AKOAKA substantially discloses the claimed invention, but does not specifically disclose an index profile symmetrical relative to a light exit surface of a light controlling means. Given the symmetrical shape of the AKOAKA controlling means, it is likely to transmit a symmetrical shape, Applicant admits such is known, i.e. a refractive index formed in a radial/symmetric direction (Paragraph 11).

***Allowable Subject Matter***

6. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Amendment***

7. The objections to the drawings are withdrawn.

***Response to Arguments***

8. Applicant's arguments filed 6/21/2006 have been fully considered but they are not persuasive.

9. Applicant argues the claimed invention is distinguishable due to the claim language regarding a refractive index profile formed in both directions parallel and vertical to/extending in an X and Y direction relative to the light exit surface. Notably, any different element/phase through which light passes inherently has a refraction index profile/shape. Likewise, Applicant admits that refractive index profiles are known (Paragraph 11). Given that any such profile extends in an X and Y direction relative to an emission face, it is clear from the figures that the light controlling means of the art of record anticipates the invention as claimed.

10. Applicant asserts that AKOAKA does not teach or disclose variation in the refractive index profile. However, Applicant acknowledges that LEDs are commonly used in analogous applications. Given that LEDs have a refractive index that varies when traveling away from a center point, it is reasonable to conclude that when using

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an LED with a light controlling means, the profile of the LED will be repeated in the controlling means.

11. Applicant asserts that AKOAKA does not teach or disclose repeating refractive index variations. As noted, dual light sources/LEDs will yield repeating refractive index profiles.

12. Applicant argues AKOAKA does not disclose refractive index variation. As shown, such variations are inherent in point light sources/LEDs, which are commonly utilized in analogous devices.

13. The rejections are maintained.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam C. Rehm whose telephone number is 571.272.8589. The examiner can normally be reached on M-F 9-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571.272.2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ACR  
8/29/2006



**THOMAS M. SEMBER  
PRIMARY EXAMINER**